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| 10/693,362 | 10/24/2003 | Ashish Shah | 14917.0552USII | 2600 |

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| EXAMINER | |
|---|---|
| FEARER, MARK D | |

| ART UNIT | PAPER NUMBER |
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| 2443 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/693,362 | SHAH, ASHISH | |
| | Examiner | Art Unit | |
| | MARK D. FEARER | 2443 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *01 October 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-4,6-8,12-15,17-23 and 25-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4, 6-8, 12-15, 17-23 and 25-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

**DETAILED ACTION**

1. Applicant's Amendment filed 01 October 2008 is acknowledged.
2. Claims 1, 6, 12, 17, 20-23 and 25-27 have been amended.
3. Claims 5, 9-11, 16 and 24 are cancelled.
4. Claims 1-4, 6-8, 12-15, 17-23 and 25-27 are still pending in the present application.
5. This action is made FINAL.

***Claim Rejections - 35 USC § 103***

**6.** The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**7.** Claims 1, 3-4, 6, 12, 14-15, 17, 20, 22-23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurley et al. (US 6678882 B1) in view of Freeman et al. (US 20010049717 A1).

Consider claims 1, 12 and 20. Hurley et al. discloses a collaborative model for software systems with synchronization submodel with merge feature, automatic conflict resolution and isolation of potential changes for reuse, comprising a method for synchronizing a plurality of instances of a storage platform for a hardware/software interface systems, said method comprising: dividing said storage platform into change units (column 30 line 15 – column 31 line 47); sequentially enumerating changes and tracking said changes on a per change unit basis (column 4 line 45 – column 5 line 14 and column 5 line 56 – column 6 line 4); each of the plurality of instance, tracking a state of changes for that instance, as well as a state of changes for a plurality of other known instances in a sync community (column 15 lines 30-52); and for synchronization, identifying new changes by comparing enumerated changes for a particular instance with the state of changes for that instance (column 4 line 45 – column 5 line 14); wherein said multiple instances of said storage platform comprise a multi-master sync community (column 25 line 63 – column 26 line 12 and column 28 lines 43-67). However, Hurley et al. fails to disclose a method for synchronizing a plurality of instances of a storage platform wherein a change unit is mapped to a community folder with which each of the plurality of instances synchronizes, each of the plurality of instances storing a mapping of the change unit from a local format to a format of the

community folder, the mapping enabling synchronization of the change unit with the community folder. Freeman et al. discloses a method and apparatus for communicating among a network of servers comprising a common database (read as community folder) (("As described above, the servers 180 store "static" data, i.e., data that persist across client sessions, in the persistent store 230. Writing to the persistent store 230 can take relatively long periods of time. To minimize accesses to the persistent store 230, the servers 180 may develop a logical, common database (i.e., the dynamic store 240) that is accessible by all of the servers 180 in the farm 110 for accessing and storing some types of data. The dynamic store 240 may be physically implemented in the local memory of a single or multiple servers 180 in the server farm 110, as described in greater detail below. The local memory can be random access memory, disk, disk farm, a redundant array of independent disks (RAID), or any other memory device that allows data to be read and written.") paragraph 0109); conversion of events into a model format (("The persistent store system service module 352 essentially converts an event message submitted by the requesting entity in an external data model format into a locally understood internal data model format, and vice versa, in order to service the request. The internal and external data models supported by the persistent store system service module 352 can, for example, correspond to the lightweight directory access protocol (LDAP) data model or other protocol or database formats. The ability to convert external data models from a number of different requesting entities into a single internal data model (and vice versa) enables the persistent store system service module 352 to provide uniform access to data stored on the persistent store 230.") paragraph 0168);

and a mapping of events (read as a mapping of instances) (("In one embodiment, the objects in the persistent store 230 may be stored in a database file and, in this embodiment, the persistent store 230 maybe searched using traditional database requests. In another embodiment, the distinguished name of the requested data as specified by the external data model is mapped to the implicit or pre-defined schema stored on the persistent store 230. The pre-defined schema may include one or more fields that allow the objects within the database to be arranged as a tree data structure (e.g., a binary tree). For example, each entry in the persistent store 230 may include a "ParentID" field, a "NodeID" field, and a "Node Name" field as shown in Table 1 below, which allow the persistent store 230 to be searched as a tree data structure. For this embodiment, every object stored in the persistent store 230 may have an attribute that specifies the location of the object in the tree. This location can be an absolute position in the tree with respect to the root node or relative to the locations of other objects in the tree (e.g., relative to a parent node). Table 1 illustrates an exemplary arrangement of objects in the persistent store 230 that can be traversed like a tree") paragraph 0170).

Hurley et al. discloses a prior art collaborative model for software systems with synchronization submodel with merge feature, automatic conflict resolution and isolation of potential changes for reuse, comprising a method for synchronizing a plurality of instances of a storage platform for a hardware/software interface systems, said method comprising: dividing said storage platform into change units; sequentially enumerating changes and tracking said changes on a per change unit basis; each of the plurality of

instance, tracking a state of changes for that instance, as well as a state of changes for a plurality of other known instances in a sync community; and for synchronization, identifying new changes by comparing enumerated changes for a particular instance with the state of changes for that instance; wherein said multiple instances of said storage platform comprise a multi-master sync community upon which the claimed invention can be seen as an improvement.

Freeman et al. discloses a method and apparatus for communicating among a network of servers comprising a common database; conversion of events into a model format; and a mapping of events.

Thus, the manner of enhancing a particular device (method and apparatus for communicating among a network of servers comprising a common database; conversion of events into a model format; and a mapping of events) was made part of the ordinary capabilities of one skilled in the art based upon the teaching of such improvement in Freeman et al. Accordingly, one of ordinary skill in the art would have been capable of applying this known improvement technique in the same manner to the prior art collaborative model for software systems with synchronization submodel with merge feature, automatic conflict resolution and isolation of potential changes for reuse, comprising a method for synchronizing a plurality of instances of a storage platform for a hardware/software interface systems, said method comprising: dividing said storage platform into change units; sequentially enumerating changes and tracking said

changes on a per change unit basis; each of the plurality of instance, tracking a state of changes for that instance, as well as a state of changes for a plurality of other known instances in a sync community; and for synchronization, identifying new changes by comparing enumerated changes for a particular instance with the state of changes for that instance; wherein said multiple instances of said storage platform comprise a multi-master sync community of Hurley et al. and the results would have been predictable to one of ordinary skill in the art, namely, one skilled in the art would have readily recognized a method of consistency unit replication.

Consider claims 3, 14 and 22, as applied to claims 1, 12 and 20, respectively. Hurley et al., as modified by Freeman et al., discloses a method wherein a change unit is a Property (Hurley et al., column 15 lines 30-44).

Consider claims 4, 15 and 23, as applied to claims 1, 12 and 20, respectively. Hurley et al., as modified by Freeman et al., discloses a method wherein a change unit is an individual Property of an Item, Extension, or Relationship, but not a Property of a Nested Element in said Item, Extension, or Relationships (Hurley et al., column 17 lines 11-19).

Consider claims 6, 17 and 25, as applied to claims 1, 12 and 20, respectively. Hurley et al., as modified by Freeman et al., discloses a method wherein changes to an instance are uniquely enumerated based on a unique replica identification, and wherein

said changes are sequentially enumerated for said instance (Hurley et al., column 33 lines 25-46).

**8.** Claims 2, 13 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurley et al. (US 6678882 B1) in view of Freeman et al. (US 20010049717 A1) and in further view of Kawamichi et al. (US 7181470 B1).

Consider claims 2, 13 and 21, as applied to claims 1, 12 and 20, respectively. Hurley et al., as modified by Freeman et al., discloses a collaborative model for software systems with synchronization submodel with merge feature, automatic conflict resolution and isolation of potential changes for reuse comprising granular storage units. However, Hurley et al., as modified by Freeman et al., fails to disclose a method wherein a change unit is an Item. Kawamichi et al. discloses a coincidence method for distribution system wherein change requests comprise Item IDs (column 3 line 50 – column 4 line 8).

Therefore, it would have been obvious for a person of ordinary skill in the art at the time the invention was made to incorporate a coincidence method for distribution system wherein change requests comprise Item IDs as taught by Kawamichi et al. with a collaborative model for software systems with synchronization submodel with merge feature, automatic conflict resolution and isolation of potential changes for reuse comprising granular storage units as taught by Hurley et al., as modified by Freeman et al., for the purpose of collaborative synchronization.

**9.** Claims 7-8, 18-19 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurley et al. (US 6678882 B1) in view of Freeman et al. (US 20010049717 A1) and in further view of Ooe et al. (US 5737743 A).

Consider claims 7, 18, and 26, as applied to claims 1, 12 and 20, respectively. Hurley et al., as modified by Freeman et al., discloses a collaborative model for software systems with synchronization submodel with merge feature, automatic conflict resolution and isolation of potential changes for reuse comprising granular storage units. However, Hurley et al., as modified by Freeman et al., fails to disclose a method wherein the changes are enumerated at a change unit level. Ooe et al. discloses a disk block controller and file system which supports large files by allocating multiple sequential physical blocks to logical blocks wherein if the number of free physical disk block spaces is insufficient during such an allocation, the change unit changes part of an area used for a large number of sequential empty physical disk block spaces into an area used for a small number of sequential empty physical disk block spaces (column 4 lines 8-19).

Therefore, it would have been obvious for a person of ordinary skill in the art at the time the invention was made to incorporate a disk block controller and file system which supports large files by allocating multiple sequential physical blocks to logical blocks wherein if the number of free physical disk block spaces is insufficient during such an allocation, the change unit changes part of an area used for a large number of

sequential empty physical disk block spaces into an area used for a small number of sequential empty physical disk block spaces as taught by Ooe et al. with a collaborative model for software systems with synchronization submodel with merge feature, automatic conflict resolution and isolation of potential changes for reuse comprising granular storage units as taught by Hurley et al., as modified by Freeman et al., for the purpose of collaborative synchronization.

Consider claims 8, 19 and 27, as applied to claims 1, 12 and 20, respectively. Hurley et al., as modified by Freeman et al. and Ooe et al., further discloses a method wherein conflicts are detected and resolved at a change unit level (Hurley et al., column 1 line 60 - column 2 line 5).

***Response to Arguments***

**10.** Applicant's arguments filed 27 June 2008 with respect to claims 1, 12 and 20 have been considered but are moot in view of the new ground(s) of rejection.

The examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider

each of the cited references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage disclosed by the examiner.

***Conclusion***

**11.** Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any response to this Office Action should be faxed to (571) 273-8300 or mailed to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

**Customer Service Window**
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Mark Fearer whose telephone number is (571) 270-1770. The Examiner can normally be reached on Monday-Thursday from 7:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Tonia Dollinger can be reached on (571) 272-4170. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 571-272-4100.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Mark Fearer
/M.D.F./
December 2, 2008

/PHUOC NGUYEN/

Primary Examiner, Art Unit 2443